

High Shock SMD Crystal Oscillator

460kHz to 50MHz

FEATURES

- Frequency Range 460kHz to 50MHz
- Mechanical shock survivability up to 100,000g
- Supply voltage from 0.9V to 5.0Volts available
- Low EMI emission
- Hermetically sealed package
- Low acceleration sensitivity available
- Full MIL testing to MIL-PRF-55310 available
- SM1 and SM5 versions are pB free



DESCRIPTION

HGXO oscillators are miniature, surface mount units that can survive extremely high shocks, up to 100,000g. The design consists of a hermetically-sealed high shock crystal and a CMOS compatible integrated circuit housed in a SMD 7.5mm x 5.0mm ceramic package. Designed and manufactured in USA by Statek Inc.

SPECIFICATION

Specifications are typical at 25°C unless otherwise indicated. Tighter specifications are available, contact Euroquartz technical sales.

Supply Voltage:	+0.9V to +5.0 Volts
Calibration Tolerance:	From ±10ppm
Frequency Stability over Operating Temperature Range**	
Commercial (0° ~ +70°C):	From ±10ppm
Industrial(-40° ~ +85°C):	From ±20ppm
Military (-55° ~ +125°C):	From ±40ppm
Total Frequency Tolerance**	
Commercial (0° ~ +70°C):	From ±15ppm
Industrial(-40° ~ +85°C):	From ±20ppm
Military (-55° ~ +125°C):	From ±50ppm
Output Load:	15pF (Higher loads available)
Rise and Fall Time:	6ns maximum
Duty Cycle:	60/40%
Shock Survival:	Up to 100,000g, 0.5ms, ½ sine
Vibration Survival***:	20g, 10~2000Hz swept sine
Maximum Process Temperature:	260°C for 20 seconds

* Does not include calibration tolerance.
 ** Frequency over temperature relative to nominal frequency.
 *** per MIL-STD-202G Method 204D, Condition D.
 Random testing is also available

PACKAGING OPTIONS

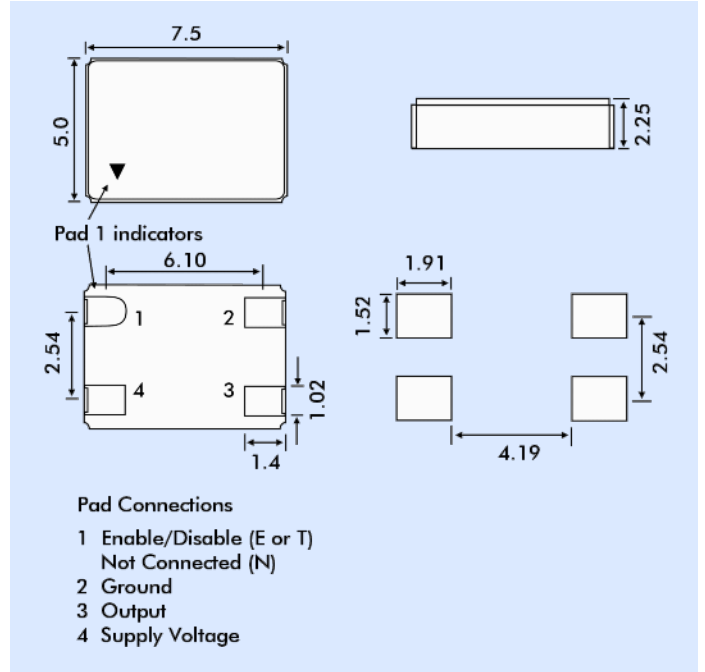
HGXO oscillators are available either tray packed (<250pcs) or tape and reel (>250 pieces).
 16mm tape, 178mm or 330mm reels (EIA 418).

HOW TO ORDER HGXO SMD CRYSTAL OSCILLATORS

Example: **HGXO3D-S-T-SM3-32.0M, 100/100/-/I**

HGXO 3	D	S	T	SM3	32.0M,	100	/ 100	/ - / I
Supply Voltage 0 = 0.9V 1 = 1.8V 2 = 2.5V 3 = 3.0V 4 = 3.3V 5 = 5.0V	Shock Level A = 5,000g B = 10,000g C = 20,000g D = 30,000g F = 50,000g G = 75,000g H = 100,000g	Blank = standard S = special or custom	Enable/Disable option, E, T or N	Terminations Blank = SM1 = Gold plated SM3 = Solder dipped SM5 = Solder dipped (SM1 and SM5 are pB free)	Frequency K = kHz M = MHz	Calibration Tolerance at 25°C	Frequency Stability over Temp. Range (in ppm)	Temp. Range C = -10° ~ +70°C I = -40° ~ +85°C M = -55° ~ +125°C S = Customer specified

OUTLINE & DIMENSIONS



COMPARISON OF ENABLE/DISABLE OPTIONS

	Option 'E'	Option 'T'
When enabled (PIN 1 is high*)		
Output:	Freq. Output	Freq. Output
Oscillator:	Oscillates	Oscillates
Current Consumption:	Normal	Normal
When disabled (PIN 1 'low')		
Output:	High 'Z' state	High 'Z' state
Oscillator:	Stops	Oscillates
Current Consumption:	Very low	Lower than normal
When re-enabled (PIN 1 from low to high)		
Output recovery:	Delayed	Immediate

* When Pin 1 is allowed to float it is held 'high' by an internal pull-up resistor.
 Option 'N' = Pin 1 not connected internally.